RESEARCH HIGHLIGHT

March 2009

Socio-economic Series 09-010

Rivergreen Ecovillage Design Charrette, Saskatoon

INTRODUCTION

In 2005, a group of citizens launched an initiative to build sustainable residential–commercial developments in and around Saskatoon, a city of 225,000. The initiative resulted in an extensive network building process and formation of the non-profit Prairie Ecovillage Development Corporation (PEDCO) in 2006.

PEDCO's first project, Rivergreen Ecovillage, began to take shape over the next two years. The eco-village will be a mixed development with approximately 6,400 m^2 (68,889 sq. ft.) of residential space, 2,300 m^2 (24,757 sq. ft.) of commercial–retail, 3,360 m^2 (36,167 sq. ft.) of parking, storage, mechanical and basements, and 600 m^2 (6,458 sq. ft.) of common space. It is expected to achieve LEED Platinum[1] certification. and will be part of River Landing, a riverfront renewal area in downtown Saskatoon

Figure 1 Aerial photo of the Rivergreen Ecovillage site

As part of its implementation plan, PEDCO decided on a charrette based process to effectively involve stakeholders, the community and experts in the design. The process, which included multiple workshops and public sessions culminated in a three-day design charrette in April 2008.

BACKGROUND

Rivergreen Ecovillage traces its roots to Road Map 2020, a Saskatoon community planning and engagement process.[2] Since June 2004, Road Map 2020 has been building community awareness of the environmental, social and economic benefits of sustainable practices and working to develop a multi-sector network of community leaders interested in building a more sustainable Saskatoon for the future.

Discussions in Road Map's Community Best Practices Task Group provided the initial catalyst for a sustainable housing demonstration project intended to influence Saskatoon's housing market.

Following a networking exercise that included a series of public meetings beginning in February 2005, PEDCO was established to realize this opportunity. A subsequent process of project and site selection resulted in the concept for a showcase project of high-quality, mid-density, mixed-use urban living—the Rivergreen Ecovillage—on a 0.57 ha (1.4 acre) downtown brownfield site, which is part of River Landing Phase II.[3]

Rivergreen Ecovillage is intended to benefit from and add value to this desirable natural area. which is adjacent to the South Saskatchewan River, the Meewasin Trail and park system, Victoria Park, and other natural amenities. (see Figure 1) Locating the ecovillage at River Landing also achieves one of the long-term goals of the 100-year plan for the Meewasin Valley, which calls for experimental communities like the ecovillage.

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[1] For information about LEED, see www.cagbc.org. English and French, retrieved October 2008.

[2] For information, see www.roadmap2020.ca. English only, retrieved October 2008.

[3] See www.riverlanding.ca for more information. English, retrieved October 2008.

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Consistent with broader definitions of an "ecovillage," the Rivergreen Ecovillage is conceptualized as

> "a full-featured and human-scaled development in which human activities are harmlessly integrated into the natural world in a manner that is supportive of healthy human development, and economic and social sustainability for the indefinite future."
> —PEDCO *Business Plan 2007.*

PROCESS LEADING TO CHARRETTE

From its inception, PEDCO has been committed to an inclusive process of consultation and decision making involving stakeholders and community partners in the development. Consequently, efforts were made to establish a diverse network of people interested in the ecovillage concept. A series of open meetings were held in public facilities, such as the public library, and advertised through the e-mail lists and newsletters of local environmental and related organizations.

A strong response to this process resulted in an extensive network of contacts. Public meetings attracted up to 80 interested people. The idea of taking the process forward through a design charrette was introduced in the fall of 2005, at which time contacts were made with CMHC regional staff. Because PEDCO had not secured land for the project at that time, it was decided that a charrette was not feasible. However, a 1.5-day "visioning workshop" was organized for November 4–5, 2005, with support from CMHC and the Saskatoon Housing Initiative Partnership (SHIP) . The visioning workshop included a number of elements typical of charrettes.

About 40 people participated in the 10-hour visioning workshop which explored the potential to develop a sustainable housing project. The purposes of the workshop were:

- To develop a hierarchy of development objectives. While not excluding any considerations at this stage of development, the objectives were used as a basis for future trade-offs that might be required.
- To learn how to assess a potential site based on some physical aspects of sustainability (including air quality, hydrology, site sustainability, energy, and potential building material issues/ opportunities). The River Landing Phase II location was discussed as a possible consideration. Zoning, suggested parcel sizes, environmental screening results, site configuration, access to services (e.g. schools and transit), the concept plan for the area (e.g. riverbank park, paths, traffic flows, adjacent land-uses) were all reviewed.

One result of the workshop was a planning framework for the ecovillage (see Figure 2), which identified seven themes or objective streams to guide the development forward.

Based on individual, and then some group identification of outcomes and objectives for a sustainable housing project, a set of seven (7) themes emerged at the Visioning Workshop held November 4th and 5th, 2005 to help guide planning and decision-making efforts into the future.

Theme One – Community	**Theme Two – Green Technology**	**Theme Three – Nature**	**Theme Four – Integration of Nature and People**	**Theme Five – Pedestrian Environment**	**Theme Six – Beauty**	**Theme Seven – Growth/Maintenance of Individuality**
Concepts to describe this theme include • Shared resources and skills • Diverse • Accessible • Sharing meals • Peaceful, tranquil • Rental opportunities • Group • Neighbours • Simple (plain) • Common facilities • Safe and inclusive • Different generations • Courtyard • Cooperative • Community orientation • Cozy • Lots of kids • Personally warm • Child-friendly • Happy community • Life learning	Concepts to describe this theme include • Green • Healthy • Energy efficient • Sustainable • Multi-use • Small footprint • Solar energy • Integrate style and function • On-site well • Restored • Earth friendly • Work-Live-Recreate • Environmental lifestyle (recycle, compost, garden) • Ecofriendly • Energy collection • Variety of buildings • Mud and straw • Diverse	Concepts to describe this theme include • Healthy • Nature involved • Bio-friendly • Close to nature • Water • Sunny • Garden • Trees • Nature in an urban setting • Organic (fluidity)	Concepts to describe this theme include • Strong relationship with the biosphere • Bio-mimicry • Co-evolution • Permaculture • Estuary • Give back what we take • Nature-visible and accessible	Concepts to describe this theme include • Walkable • Low traffic • Pedestrian lifestyle (not vehicle dependent) • No driving • Great street culture	Concepts to describe this theme include • Character • Visual • Beautiful • Aesthetically pleasing	Concepts to describe this theme include • Solitude • Privacy • Little noise pollution • No vandalism

Figure 2 The ecovillage planning framework

The results of the visioning workshop provided a good summation of the work of the networking process to that point and thus a strong foundation for the charrette process.

BEFORE THE CHARRETTE

Over the course of 2006–2007, PEDCO focused on formalizing its corporate status and governance model, creating a business plan for the project and building a project team.

PEDCO also launched activities to build public, administrative and political support for the project. Among these activities were the creation of a website, the production of print materials, presentations to community groups, media relations, ongoing networking and public meetings.

Prospective ecovillage residents from among the PEDCO network of contacts were surveyed to ascertain their housing preferences.

PEDCO hired consultants to create a business plan, including an initial options study for energy use and conservation, as well as some additional environmental features.

Meetings were held with municipal managers and provincial and federal agencies with a potential interest in the project. A series of meetings were undertaken with each city councillor and the mayor of Saskatoon, as well as candidates in an upcoming civic election, to familiarize them with the project. Meetings were also held with members of the provincial legislature and cabinet ministers.

To move forward, it was also necessary to obtain seed funding. Project funding and loans totaling approximately $150,000 were obtained from a variety of sources, including Saskatchewan Housing Corporation, Canada Mortgage and Housing Corporation, the Saskatchewan Office of Energy Conservation, the Meewasin Valley Authority and Saskatchewan Environment. PEDCO had originally suggested a somewhat smaller site at River landing but the concept for the project grew to its present size when the current location was agreed upon with the City of Saskatoon. Once the site was finalized it was decided that the project should proceed with its formal design charrette.

A number of options were considered for the design charrette. Several facilitators were considered and ultimately a decision was made to work with Elisa Campbell Consulting and her team.

PRINCIPLE	BUT
1. A diverse yet inclusive development, which enables and fosters sustainable lifestyle.	P1.1 Enable people from a range of economic levels, ages, and abilities to reside in the development P1.2 Facilitate work-live-recreate opportunities P1.3 Maximize sense of community and "neighbourness" amongst residents P1.4 Provide opportunity for privacy
2. Reliance on healthy and efficient infrastructure, which enables and fosters a smaller development footprint.	P2.1 Achieve outstanding energy conservation and efficiency P2.2 Foster the ability to be or become a net renewable energy producer P2.3 Ensure the use of green building practices P2.4 Promote community-based food production
3. Integration of people and nature, which enable and fosters a strong relationship with the biosphere.	P3.1 Create multi-functional green spaces with significant ecological value P3.2 Minimize ecological footprint P3.3 Incorporate native habitat P3.4 Protect the quality and quantity of water resources
4. A walkable environment, which enables and fosters pedestrian-oriented lifestyles.	P4.1 Design a vibrant public realm that promotes social interaction P4.2 Minimize impact of automobile traffic at the site P4.3 Optimize access to daily needs/amenities P4.4 Ensure development is at a pedestrian scale
5. Aesthetically-pleasing surroundings with character and a unique indentity, which enables and fosters a development that focuses on people and community.	P5.1 Use locally-sourced and low impact building materials P5.2 Celebrate the local cultural and natural identity and heritage P5.3 Create a safe, peaceful and tranquil environment P5.4 Provide a variety in building form
6. An economically sustainable development, which enables and fosters affordability of housing and sustainable livelihoods.	P6.1 Optimize affordability of housing units P6.2 Create smallest ecological footprint while remaining economically viable P6.3 Ensure resource efficiencies reduce lifecycle costs for investors P6.4 Ensure a diverse mix of economic opportunities, including local economic development

Figure 3 Principles and priority goals to guide the Rivergreen design charrette

DESIGN CHARRETTE PROCESS

A design charrette process was selected as the best mechanism for achieving the following process objectives:

- enhancement of the public education aspect of the process;
- provision of a mechanism through which to engage a broad stakeholder group in the planning and design activities;
- enhancement of the existing integrated design process through increasing opportunities for collaboration;
- alignment of the stated vision (words) with quantitative targets (numbers) and detailed pictures (the design).

The design charrette process placed significant emphasis on public workshops that preceded the charrette. These workshops provided a mechanism for engaging an even broader stakeholder group in defining priority goals and strategies for the development.

There were six key pieces to the process for the Rivergreen Ecovillage:

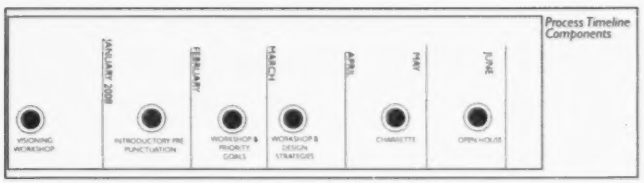

Figure 4 Timelines Diagram

1. A **goal-setting workshop**, held in mid February 2008, at which participants engaged in a conversation about the priority goals for development. A set of possible goals across a broad range of sustainability themes was provided to participants. The potential goals were drawn from existing policy, current decisions and directions (especially as related to the vision), and best practices information. The participant group of approximately 65 people identified the priority goals from this longer list through a "dotmocracy" exercise, resulting in a concise set of 24 goals for the Rivergreen Ecovillage. The priority goals (see figure 3) that resulted from the workshop became key ingredients of the design brief that guided the charrette. The net result was that the eventual design reflected the input of this broader group of participants.
2. A **design strategies workshop** was held about two weeks later. About 65 people attended.

   At this workshop, participants collaborated to identify a series of design strategies that would help to achieve each of the priority goals identified in Workshop 1. Input from the workshop formed another component of a design brief that was used to guide the intensive design charrette in April.
3. **Identification of performance indicators and targets** that provided quantitative measures for the priority goals. Due to the desire for the Rivergreen Ecovillage to achieve a superior (Platinum) LEED rating, these targets were informed by the Canada Green Building Council's LEED—New Construction rating system, as well as input from the workshops and finalized by he facilitation team.
4. **A design brief** developed by the charrette facilitator using all of this information to create a document to guide the work of a team of stakeholders, professionals, experts, and others in the integrated design exercise. The design brief reflected input from the stakeholder engagement process, existing policy for the area, and best management practices with respect to sustainable urban design. It outlined the principles, goals and targets to be achieved by the charrette team; the detailed strategies, technologies and design features that facilitate this to happen would be the product of the design charrette. This document provided some background information about the Rivergreen Ecovillage, along with the design requirements for the project. It included information about the charrette team and the choreography of the design event. More detailed information, including relevant policy, was referenced in this document and provided at the charrette under separate cover.
5. **A three-day design charrette** was held approximately one month later between April 14–16, 2008. At the charrette, a smaller group of 28 participants, working alternately as three teams[1] and in plenary generated schematic designs for the buildings and infrastructure. The teams were assigned distinct issues: buildings, infrastructure and networks. The participants applied the goals and targets to the physical location and came up with a proposed conceptual design. This time-limited intense design event resulted in a set of raw drawings (including plans, elevations, sections, perspectives) and associated strategies that depicted how best to manifest the goals and targets in physical form. Although the charrette was limited to a core group of designers, two opportunities were provided for interested stakeholders to have input.

   The **mid-course review** on the second day of the charrette provided an opportunity for a broader group of stakeholders to give input to the emerging design concepts. It was timed for the halfway mark of the charrette in order to ensure that there was enough material to convey the initial concepts, but enough time to allow for incorporation of input received. While the material presented at the mid-course review was still sketchy and diagrammatic, it clearly identified the status of core strategies and design measures being considered.

   The presentation at the end of the charrette was a **presentation of the raw results**—the drawings (see Figures 5 to 7) that had only been completed a short time before. It was an opportunity for stakeholders and concerned citizens to be introduced to the consensus that was achieved over the preceding days, and to once again

provide vital feedback and input. The design of the site was communicated through a range of drawings, text and numbers, and thoughts about next steps were passed on.

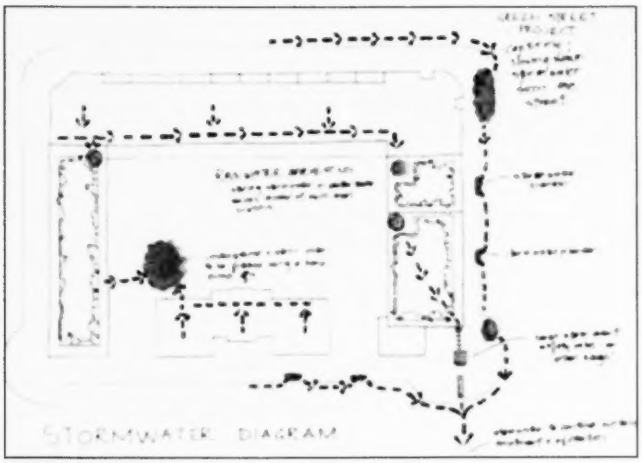

Figure 5 Stormwater diagram

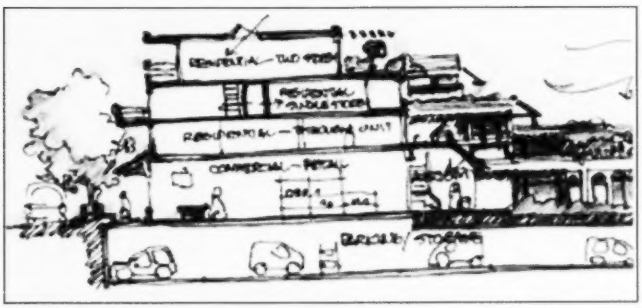

Figure 6 Building section

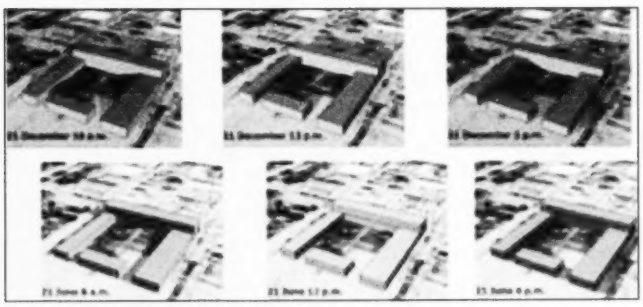

Figure 7 Shadow studies

A summary report was created as the final step in the charrette process by the charrette facilitator. This report, available at www.rivergreen.ca/news.php, is a detailed summation of the responses of the charrette team to each of the goals and proposed strategies. The summation includes a large sample of the drawings from the charrette, as well as other examples of best practices. This document will form the basis for the design of the project following the charrette.

FOLLOW UP

As a follow up to the charrette, it was decided to begin a series of weekly Integrated Project Delivery (IPD) team meetings. The IPD team included the development managers (PEDCO), the architect, the project manager and staff and the construction manager. Other expert advice was brought into these meetings from time to time.

The first meeting went through the results of the charrette to determine the feasibility of each decision from a financial, constructability and sustainability perspective. The majority of results were affirmed and several were determined to be unfeasible or needing amendment. Following this exercise, design work was initiated.

Ongoing meetings of the team and other expert consultants were held to clarify and continue the work started in the charrette on the mechanical systems, look and feel of the building, and commercial spaces.

CONCLUSION

The charrette process was deemed to be effective in meeting PEDCO's goal of involving stakeholders in the design process. Participants viewed the results positively. The summary report has proven a valuable starting point for both the design of the project and has been a very useful basis for marketing the project to prospective residents and commercial occupants.

One area that was not adequately dealt with at the charrette was the "look and feel" of the building. It was felt than an extra day would have helped the participants to come to a consensus in this area.

Charrette Team

1. Jacqui Barclay—Riversdale Community Association
2. Jacquie Bevill—CMHC
3. Paul Blaser—Rajani Blaser Mannix Architecture (Project Architect)
4. Terry Bradley—CMHC
5. Lilia Buza—Rajani Blaser Mannix Architecture
6. Elisa Campbell—Elilsa Campbell Consulting (Facilitator)
7. Don Cook—Transportation Engineer, City of Saskatoon
8. Ken Coutu—Integrated Designs
9. Bob Cowan—Key West Engineering Ltd.
10. John Cox—CMHC
11. Rob Dumont—Saskatchewan Research Council
12. Murray Guy—Integrated Design (Project Manager)
13. Paul Hanley—PEDCO Development Manager
14. Bob Kavanagh—PEDCO Resident representative
15. Sara Muir Owen—Design Centre for Sustainability, UBC
16. Rick Olmstead—PEDCO Development Manager
17. Doug Pollard—CMHC
18. Randy Pshebylo—Riversdale Business Improvement District
19. Chris Richards—Integrated Designs
20. Anna Ringstrom—Crosby Hanna Associate
21. Craig Shearer—PEDCO Resident Representative
22. Graham Smith—UBC
23. Brian Storey—Pelican Media
24. Sudhir Suri—Rajani Blaser Mannix Architecture
25. Jackie Teed—Design Centre for Sustainability, UBC
26. Alan Wallace—Land Use Policy, City of Saskatoon
27. Brenda L. Wallace—Meewasin Valley Authority
28. Rob Wilson—Caleb Group (Project Construction Management)

CMHC Researcher: Doug Pollard

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